

REMARKS

Claims 1 - 15 remain in this application. Reconsideration of this application is respectfully requested.

In the Office Action, the disclosure was objected to because of certain informalities. First, the Office Action noted that on page 12, line 6, "line A-A of the work shown in FIG. 1(a)" should read --line A-A of the work shown in FIG. 1(b)--. Applicant agrees and has amended this line accordingly. Second, the Office Action noted that on page 14, line 22, "cylinder 6a disposed at an upper base 4a of the body 4" should read "cylinder 6a disposed at an upper base 4d of the body 4." Applicant agrees that this line of the specification is in error, but disagrees with the proposed correction. Applicant therefore has instead amended this line of the specification to read --cylinder 6a disposed at an upper base 4g of the body 4-- as the upper base is 4g, not 4a or 4d.

Claims 1 - 15 were rejected under Section 103(a) as being unpatentable over Usui et al. (U.S. Patent No. 6,530,255, hereinafter "Usui") in view of Copeman (U.S. Patent No. 5,440,912) and further in view of Schneider et al. (U.S. Patent No. 4,981,031, hereinafter "Schneider"). Applicant respectfully traverses this rejection.

To begin, with respect to claim 1, Usui, Copeman, and Schneider neither alone nor in combination teach or suggest certain features of the present invention. First, the cited references do not teach or suggest a "side-face working apparatus comprising a rotating base that is supported on the fixed-side portion of a press machine so as to rotate thereon," and "a reciprocating base that is supported on said rotating base so as to reciprocate thereon," as claimed in claim 1 of the present application. Usui discloses a finish bender 50 having a guide 51 disposed on a lower die of a press machine, a moving member 52 movable on the guide 51, and a finishing blade 53 on the moving member 52. The moving member 52 reciprocates forward and back along the guide 51 (see Fig. 4), but the finish bender 50 does not include a rotating base that can rotate the finish bender. The guide 51 is fixedly mounted to the press machine. The finish bender does not rotate; instead, the moving member 52 of the finish bender 50 merely reciprocates (forward and back) via

actuation by the finish bend pressing die 45. In contrast, in the present invention the side-face working apparatus 17 includes a rotating base 18 supported on the fixed-side portion of the press machine to rotate (pivot) thereon about pivot axis 18a via driving means 30. See for example Figs. 3 and 4 (including arrows B and C). The side-face working apparatus 17 also includes a reciprocating base 19 supported on the rotating base so as to reciprocate thereon (forward and back) (see for example Fig. 6 and arrows D and E). This structure of the present invention is not taught or suggested by the structure of the finish bender of Usui or by any other structure disclosed in Usui, Copeman, or Schneider.

Second, the cited references do not teach or suggest the "side-face working apparatus is constituted such that it moves to an avoidance position, in which the side-face working apparatus is not in the way of the upper die going up and down, during said press working by the upper and lower dies, whereas it moves to a working capable position, in which said side-face press working is capable, after the upper die goes up," as claimed in claim 1. In the present invention, the side-face working apparatus 17 pivots to an avoidance position such that it is not in the way of the upper die when the upper die lowers to perform press work with the lower die (see for example Fig. 3). The side-face working apparatus 17 can also pivot to a working capable position for performing side-face press work after the upper die has returned to its upper, non-pressing position (see for example Fig. 5). Once in the working capable position, the side-face working apparatus 17 is actuated to perform side-face press work as a step separate from upper/lower face pressing (see for example Fig. 6). The finish bender 50 of Usui is incapable of rotating/pivoting, so it cannot pivot between an avoidance position and a working capable position. Further, as seen in Fig. 4 of Usui, the finish bender 50 is not in an avoidance position when the upper die lowers to the lower die to perform press work. Instead, in Usui, the finish bender 50 is actuated to perform finish bending at the same time that the upper die performs press work with the lower die. Hence, the finish bender 50 cannot move to an avoidance position. Turning to the other cited references, neither Copeman nor Schneider teach or suggest these features of the present invention.

For these reasons, claim 1 is patentable over Usui, Copeman, and Schneider, or any combination thereof. Claims 2 - 3 and 5 - 6, depending directly or indirectly from claim 1, are therefore also patentable.

Nevertheless, with respect to claim 2, none of Usui, Copeman, or Schneider alone or in combination teach or suggest that the side-face working apparatus moves between the avoidance position and the working capable position by rotation of the rotating base of the side-face working apparatus. As stated above, the finish bender 50 of Usui is incapable of rotating, and is incapable of moving into an avoidance position, by rotation or any other movement. Also, neither Copeman nor Schneider teach or suggest the limitations of claim 2. Therefore, claim 2 is further patentable over Usui, Copeman, and Schneider.

With respect to claim 3, none of Usui, Copeman, or Schneider alone or in combination teach or suggest that the rotating base 18 is supported on the fixed-side portion of the press machine through a bearing portion 4c so as to rotate thereon, and that the rotating base 18 includes a driving apparatus 30 that rotates the rotating base 18 and a stopper 4b that is disposed on the fixed-side portion of the press machine to support the rotating base 18, as claimed in claim 3 of the present application. Further, the cited references do not teach or suggest that the avoidance position of the side-face working apparatus 17 is provided by rotating the rotating base 18 to a substantially inverted position, and that the working capable position of the side-face working apparatus 17 is provided by rotating the rotating base 18 to a laid position in which the rotating base 18 is put on the stopper 4b, as claimed in claim 3 of the present invention. As stated above, the finish bender 50 of Usui is not capable of rotating and is further not capable of rotating to and from an avoidance position and a working capable position. Moreover, Usui does not teach or suggest a bearing portion for rotation of the finish bender 50 or a stopper to support the finish bender 50 in a working capable position. Even more, Usui does not teach or suggest that the finish bender 50 can be rotated to and from an inverted position (avoidance position) and a laid position (working capable position). Turning to Copeman

and Schneider, these references also fail to teach or suggest the features claimed in claim 3. Therefore, claim 3 is further patentable over Usui, Copeman, and Schneider.

With respect to claim 6, none of Usui, Copeman, or Schneider alone or in combination teach or suggest that the side-face working apparatus is disposed at least at three positions around the lower die to conduct press working to at least three side-face portions of a panel, as claimed in claim 6 of the present invention. At best, Usui discloses a side-face working apparatus disposed at two positions around the lower die. Copeman and Schneider in no way teach or suggest this feature. Therefore, claim 6 is further patentable over Usui, Copeman, and Schneider.

Turning to independent claim 7, claim 7 includes the same patentable features discussed with respect to independent claim 1 above, namely a side-face working apparatus including a rotating base that is supported on a fixed-side portion of a press machine so as to rotate thereon; and that the side-face working apparatus moves to an avoidance position, in which the side-face working apparatus is not in the way of the upper die going up and down during press working by the upper and lower dies, and that after the upper die goes up, the side-face working apparatus moves to a working capable position in which side-face press working is capable. Applicant incorporates by reference the arguments made with respect to claim 1 above. None of Usui, Copeman, and Schneider teach or suggest that the side-face working apparatus includes a rotating base to move the side-face working apparatus between an avoidance position as claimed in claim 7 and a working capable position as claimed in claim 7.

For these reasons, claim 7 is patentable over Usui, Copeman, and Schneider, and any combination thereof. Claims 8 - 13, depending directly or indirectly from claim 1, are therefore also patentable. Furthermore, claim 8 is additionally patentable for the same reasons as argued with respect to claim 2 above, claim 9 is additionally patentable for the same reasons as argued with respect to claim 3 above, and claim 13 is additionally patentable for the same reasons as argued with respect to claim 6 above.

In summation, applicant submits that claims 1 - 3 and 5 - 13 are patentable over Usui in view of Copeman in further view of Schneider. Therefore, applicant respectfully requests that the Section 103(a) rejection of claims 1 - 3 and 5 - 13 over Usui in view of Copeman in further view of Schneider be withdrawn.

Claim 4 was also rejected under Section 103(a) as being unpatentable over Usui in view of Copeman in further view of Schneider. Applicant respectfully traverses this rejection. Applicant incorporates by reference the arguments made above with respect to claims 1 and 2. Based upon those arguments, claims 1 and 2 are patentable over Usui, Copeman, and Schneider, and any combination thereof. Claim 4, depending from claim 2, which in turn depends from claim 1, is therefore also patentable. Hence, applicant respectfully requests that the Section 103(a) rejection of claim 4 be withdrawn.

Claims 14 and 15 were also rejected under Section 103(a) as being unpatentable over Usui in view of Copeman in further view of Schneider. Applicant respectfully traverses this rejection. Applicant incorporates by reference the arguments made with respect to claims 1 - 13 above. For the same reasons as above, the method incorporating the press-forming apparatus of these claims is also patentable over the cited references. Specifically, none of the cited references alone or in combination teach or suggest "a side-face press working step of conducting side-face press working to a side-face portion of the work, which is subsequent to said upper/lower face press working step, by moving said side-face working apparatus after said upper die is moved up in cooperation with said lower die." In Usui, the side-face press working step is conducted simultaneously with the upper/lower face press working step. Copeman and Schneider also do not teach or suggest this step.

Furthermore, none of the cited references alone or in combination teach or suggest, that "said side-face press working step comprises a positioning step in which said side-face working apparatus is moved from a moved-back position, in which the side-face working apparatus does not interfere with said upper die during said upper/lower-face press working step, to a position in a space formed above the lower die after the upper die is moved up so

as to position the side-face working apparatus at the side of the lower die, and a working step in which said side-face press working is conducted to the side-face portion of the work that is put on the lower die after said upper/lower-face press working step is conducted." In Usui, the finish bender cannot be moved to a moved-back position in which it does not interfere with the upper die during an upper/lower-face press working step. In Usui, the finish bender is contacted by the upper die during the upper/lower-face press working step (see Fig. 4 of Usui). Moreover, the finish bender cannot be moved to a position in which it can perform side-face press working after the upper/lower-face press working step is conducted because the finish bender can only be actuated when the upper/lower-face press working step is conducted.

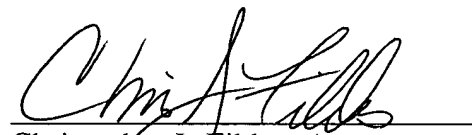
For these reasons, applicant submits that claim 14 is patentable over Usui in view of Copeman in further view of Schneider. Claim 15, depending directly from claim 14, is therefore also patentable. Applicant respectfully requests that the Section 103(a) rejection of claims 14 and 15 over Usui in view of Copeman in further view of Schneider be withdrawn.

This amendment and request for reconsideration is felt to be fully responsive to the comments and suggestions of the examiner and to present the claims in condition for allowance. Favorable action is requested.

Respectfully submitted,

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